

an arch. Amongst the twelve medals cited by Bellori, two dedicated to Drusus, and one to Claudius, represent equestrian statua in the position proposed, with trophies before and behind them, and surmounting the sides of the arch; for be it remembered, by the way, that these ornaments as applied to the square outline of the architecture are in the medals invariably threefold; so essential condition of the design as a whole, and a grave omission of the learned Thebans of the sub-committee.

These examples have been quoted by them as authority, but a little explanation will show that they are inapplicable to the case. These three examples were probably mere screens, like that at Wilton, and not deep enough, therefore, to receive the statue placed in the usual and proper manner. Another still more probable reason is suggested by the nature of the medallion art itself, which permitted the same poetical license in this case as in the others already quoted. The artist, in order to express intelligibly the single equestrian statue, places it in profile; for, had it been foreshortened, and in the front view, it might have been mistaken for a dismounted man or a trophy. To the happier periods of art exhibited in the other medals under Augustus and Trajan, and when their counsellors, Vitruvius and Apollodorus, were respected by those wise patrons, even that license was not permitted (see the nine other medals), and the artist was constrained to the representation of the fact as best he could.

The horse and rider, presenting their front to the spectator who approaches laterally from Piccadilly, will appear in most strange contrariety with the front of the arch, which presents itself at right angles to this point of view, and towards the park. The aspect of the whole should have been unity, as the head and the body; but the proposed derangement will resemble the caprice of the sculptor who should permanently fix the head of his figure looking over one of the shoulders, so that while the body faced the spectator, the head looked another way, and *vice versa*; a liberty quite inadmissible in the gravity of monumental art. As well might the architect adopt the anomalous order of architecture represented on these medals, as the unusual position of the equestrian figure surmounting the arches of Drusus and Claudius.\*

The zeal of the committee can never be doubted, but it has been without knowledge; they have deeply felt the responsibility and the greatness of the occasion, but their common sense has been overwhelmed by it; a volume of reports amply attest the fact. On this great work of art every opinion has been heard, discussed, and given, but that of artists!

The Duke himself, Mr. Cockerell considers, has never directly sanctioned the adoption of this locality, and when appealed to has said, "On this point I am a dead man."

"Whenever the noble Duke has taken an active part in similar monuments, as in the Duke of York's column and that of Nelson, he has been remarkable (as indeed in every other business of his life) for consulting professional authority; 'Cuique in sua arte credendum est' has ever been his motto. How different has been the method of this sub-committee!—a timid correspondence amongst the officials has been published without even a distant reference to such an essential preliminary; the distinguished artist himself (and it is much to be lamented) has not given his opinion, nor apparently has his opinion been asked or quoted; Mr. Burton alone, with a manly regard to his art and his own beautiful work, has, unasked, most solemnly and distinctly protested against it, with plain and unanswerable reasons for so doing, in his letter. Lord Montagu, Lord Lincoln, and Lord Canning (officially), Sir Robert Peel, and other distinguished persons, have, as occasion has offered, opposed

\* One of several correspondents on the subject says, in respect of this particular objection,—"Why the tout-ensemble will have two fronts! Has any thing in nature two fronts? As well might the crest on a helmet be put on sideways; as well might the duke be made to sit on one side of the horse, in the fashion of a brewer's drayman, as place him in the manner intended. If it cannot be adjusted properly, it has no business on the site chosen at all. If your hat went off my head the right way, I shall look a comical figure by wearing it sideways. The duke will look not as if he had mounted an honourable emulor, and in that position presented his proud front to all comers, but rather, as if he had been elevated into an unmerited position of distinction, and so, like a modest man, was meditating a cap on one side or the other to escape from it."

this sub-committee. The artists, the journals, the good sense of the country, have denounced it; and great and universal was the satisfaction, when in June last a motion in the house, and a promise from Lord Morpeth, seemed to have relieved us from this disgrace; when, hardly to our surprise, the committee, returning to the charge, have so far carried their point, that, as it is said, it is to be exhibited for three weeks *in situ*, as another experiment: the termination of those three weeks may be postponed *sine die*. The committee have shrewdly foreseen that the novelty, the eudacity of the spectacle will, at all events, be a nine days' wonder; and possibly attract the admiration and golden opinions of the mob."

We have no fear of this; what we do fear is, that the same influence, or supposed right possessed, by which the committee are enabled, in spite of the promise to the House of Commons, to hoist up the figure, "on liking," (the most puerile act in the whole of these unwise proceedings), will enable them to keep it there, when up, without any 'golden opinions,' and in spite of all objectors. The expense of reconstructing the scaffold—for the greater part of it will of course be taken down to let the statue be seen,—and the great difficulty of lowering the group, will likewise further their views.

The professor concludes his letter with an assertion of his belief, that the people of this country who feel that, however great in other respects, they have no reputation to spare on the score of art, will not subject a work, of which they will ever be jealous, to the finger of scorn; and that they will yet show in a more determined form than has been exhibited, their objection to the proceeding.

We sincerely hope this will be the case; but then it should be done immediately: not to-morrow, but to-day. The effect of the pedestal alone upon the arch may even now be seen, and must make Mr. Burton fear more strongly than before, that if the statue be placed there, a proposition will soon be made for removing altogether the facade of columns, as their "slender proportions will appear incongruous and out of proportion compared with the prodigious dimensions of the statue." Let a meeting of the subscribers be called forthwith, and we may yet escape a great and lasting reproach.

#### ANNOTATIONS ON IRON.

IRON is the most useful of all metals; it enters into every branch of the arts of civilization, and there are few departments of science in which its presence is not necessary. When we contemplate such articles as the plough, the anchor, the lancet, and the watch spring, we are forcibly impressed with the wondrous resources it affords, and with its inestimable value. "Were the use of iron lost among us," says Locke, "we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient savage Americans;" yet is this valuable metal, which is so essential to our wants, derived from very ungainly materials, and requires, more than any other, the exercise of human ingenuity. In Britain it contributes largely to the national prosperity, and may be said to constitute the basis of its staple manufactures. The methods of its manufacture, from ore into pig-iron, and from the latter into wrought, are so well known as not to require any description here,—the object of the following paragraphs being simply the collation of some leading data of practical utility, to which the growing use of this material for constructive purposes imparts increasing importance.

Pig-iron may be divided into six sorts or qualities; viz.:—Foundry iron, Nos. 1 and 2, dark gray iron, bright iron, mottled iron, and white iron. The first is so soft as to yield to the chisel, is very fluid when melted, and will fill the most delicate moulds; it is therefore used for small, ornamental, and superior work,

where accuracy and nicety are wanted: this iron contains much carbon. The second is harder, closer in the grain, less fluid when melted, and suitable for a heavier description of work: it contains less carbon than the preceding. The third, containing still less of foreign matter, is suitable either for the foundry, or for the manufacture of malleable iron; for castings, it is calculated for heavy work, where great strength and durability are essential. Respecting the fourth, fifth, and sixth, it need only be remarked, that the more they depart from the properties of the foundry iron, the less they are capable of being employed for castings, and are, consequently, the more confined to the manufacture of wrought-iron. The last, containing the least carbon of all, is totally unfit for the foundry, being so thick when it comes from the blast-furnace, that it will scarcely run into the pig-moulds; when cold, it is so hard that the chisel will make no impression on it, and so brittle that the largest pig may be broken with the blow of a sledge-hammer; it can neither be filed, bored, nor bent, and is very apt to break when suddenly heated or cooled. Those qualities, then, which approach the nearest to the grey, should be esteemed the best for constructive castings.

Hot-blast pig-iron is generally understood to be inferior in quality to cold-blast, which, indeed, seems sufficiently implied by its inferior price; the latter has been referred to,—1st, the known inferiority of hot-blast iron under impact, rendering it unfit for purposes in which the greatest weight of iron is used; 2dly, the greater loss (amounting to 2 cwt. per ton) which takes place in re-melting it; 3dly, the great irregularity in the contraction of castings when cooling, on which account many of different sizes are produced from the same pattern, causing great expense in their after-fitting, or, if that is not incurred, great defect in the machinery, &c. so made; 4thly, its unsoundness, which, when the casting requires to be turned, bored, or planed, &c., causes defects so considerable to show themselves, probably when nearly finished, that both the casting and the expense bestowed upon it are thrown away. This decided inferiority has led to a stipulation, now common with engineers, when specifying for bridges and other similarly important works—that no hot-blast iron shall be used therein, and that the ironmaster's invoice shall be forthcoming, if required.

For beams, and other bearing purposes, cast-iron, possessing a considerable degree of malleability, is to be recommended, since that property lessens the risk of sudden failure; and, as a general rule, that is to be esteemed the best for all purposes where strength is required, which sustains the greatest degree of flexure without taking a permanent set; and also, of course, which supports the greatest load. The most flexible iron is sufficiently stiff, and it is the worst and most brittle which has the greatest degree of stiffness.

Gray cast-iron, being soft and tough, is least liable to fracture by a blow or shock, is slightly malleable in its cold state, and when the external crust is removed, yields easily to the file. Its recent fracture is gray, with some metallic lustre, and granulated, the lustre appearing to be produced by minute particles of fresh-cut lead, distributed more or less thickly over the surface; if the iron is very tough, the dark gray colour is uniform, the texture fibrous, and the metallic lustre abundant; if less tough, while the colour is the same, the lustre is deficient, and the metal, though soft, is more crumbling, and will break with less force; in the weakest of the soft kinds, the colour is mottled with black-grey specks, and without lustre.

White cast-iron, being very brittle, should not be chosen for purposes wherein strength is necessary; but being very hard, it may be usefully employed where hardness is a desideratum, and brittleness is not a defect. When cast smooth, it makes excellent bearings for gudgeons or pivots to work in, being very durable, having very little friction. Its fracture indicates a crystalline structure, having, when recent, a white and radiated appearance, the lustre apparently proceeding from the facets of crystals disposed in rays; when the iron is grayish white and with much crystalline lustre, it belongs to the extreme degrees of hardness; when of a dull white, it is also very hard and brittle; when of a light colour, and possessing some little metallic lustre, it is the